CLAIMS

WHAT IS CLAIMED IS:

1. A coating composition comprising:

a base layer selected from a group consisting of hyaluronic acid, poly-lysine and a peptide; and

a biocompatible layer selected from a group consisting of polysaccharides, lipids, proteins, heparin, heparan sulfate, hirudin and aprotinin.

2. The coating composition of claim 1, wherein the hyaluronic acid has a molecular weight that may range between about 50,000 Daltons to about 30 million Daltons.

3. The coating composition of claim 1, wherein the peptide is selected from a group consisting of: tetrapeptides, oligopeptides, peptides having a sequence of arginine-glysine-aspargine-serine, and peptides having a sequence of arginine-glysine-aspargine-lysine.

4. The coating composition of claim 1, wherein the heparin is selected from a group consisting of: low molecular weight heparin, unfractionated heparin and heparin having a molecular weight that may range between 5,000 Daltons and 30,000 Daltons.

5. The coating composition of claim 1, wherein the coating composition is applied to a medical device constructed from at least one material selected from a group consisting

of: plastics, polymers, polyesters, polyolefins, polycarbonates, polyamides, polyethers, polyethylene, polytetrafluoroethylene, silicone, silicone rubber, rubber, polyurethane, DACRON, TEFLON, polyvinyl chloride, polystyrene, nylon, latex rubber, stainless steel, aluminum alloys, metal alloys, nickel, titanium, ceramics and glass.

6. A coating composition comprising:

hyaluronic acid; and

heparin.

7. The coating composition of claim 6, wherein the hyaluronic acid has a molecular weight that ranges between about 50,000 Daltons to about 30 million Daltons.

8. The coating composition of claim 6, wherein the hyaluronic acid has a molecular weight of about 7 million Daltons.

9. The coating composition of claim 6, wherein the heparin is selected from a group consisting of: low molecular weight heparin, unfractionated heparin and heparin having a molecular weight that may range between 5,000 Daltons and 30,000 Daltons.

10. The coating composition of claim 6, wherein the coating composition is applied to a medical device constructed from at least one material selected from a group consisting of: plastics, polymers, polyesters, polyolefins, polycarbonates, polyamides, polyethers, polyethylene, polytetrafluoroethylene, silicone, silicone rubber, rubber, polyurethane,

DACRON, TEFLON, polyvinyl chloride, polystyrene, nylon, latex rubber, stainless steel, aluminum alloys, metal alloys, nickel, titanium, ceramics and glass.

11. A coating composition comprising:

hyaluronic acid;

heparin; and

hirudin.

12. The coating composition of claim 11, wherein the hyaluronic acid has a molecular weight that ranges between about 50,000 Daltons to about 30 million Daltons.

13. The coating composition of claim 11, wherein the hyaluronic acid has a molecular weight of about 7 million Daltons.

14. The coating composition of claim 11, wherein the heparin is selected from a group consisting of: low molecular weight heparin, unfractionated heparin and heparin having a molecular weight that may range between 5,000 Daltons and 30,000 Daltons.

15. The coating composition of claim 11, wherein the hirudin has a molecular weight of about 6,900 Daltons.

16. The coating composition of claim 11, wherein the coating composition is applied to a medical device constructed from at least one material selected from a group

consisting of: plastics, polymers, polyesters, polyolefins, polycarbonates, polyamides, polyethers, polyethylene, polytetrafluoroethylene, silicone, silicone rubber, rubber, polyurethane, DACRON, TEFLON, polyvinyl chloride, polystyrene, nylon, latex rubber, stainless steel, aluminum alloys, metal alloys, nickel, titanium, ceramics and glass.

17. A coating composition comprising:

poly-lysine; and

heparin.

18. The coating composition of claim 17, wherein the poly-lysine has a molecular weight that ranges between about 20,000 Daltons to about 2,000,000 Daltons.

19. The coating composition of claim 17, wherein the heparin is selected from a group consisting of: low molecular weight heparin, unfractionated heparin and heparin having a molecular weight that may range between 5,000 Daltons and 30,000 Daltons.

20. The coating composition of claim 17, wherein the coating composition is applied to a medical device constructed from at least one material selected from a group consisting of: plastics, polymers, polyesters, polyolefins, polycarbonates, polyamides, polyethers, polyethylene, polytetrafluoroethylene, silicone, silicone rubber, rubber, polyurethane, DACRON, TEFLON, polyvinyl chloride, polystyrene, nylon, latex rubber, stainless steel, aluminum alloys, metal alloys, nickel, titanium, ceramics and glass.

21. A coating composition comprising:

hirudin;

a peptide; and

heparin.

22. The coating composition of claim 21, wherein the hirudin has a molecular weight of about 6,900 Daltons.

23. The coating composition of claim 21, wherein the heparin is selected from a group consisting of: low molecular weight heparin, unfractionated heparin and heparin having a molecular weight that may range between 5,000 Daltons and 30,000 Daltons.

24. The coating composition of claim 21, wherein the peptide is a tetrapeptide.

25. The coating composition of claim 21, wherein the peptide is a tetrapeptide having the sequence of: arginine-glysine-aspargine-serine.

26. The coating composition of claim 21, wherein the peptide is a tetrapeptide having the sequence of: arginine-glysine-aspargine-lysine.

27. The coating composition of claim 21, wherein the peptide is an oligopeptide.

28. The coating composition of claim 21, wherein the coating composition is applied to a medical device constructed from at least one material selected from a group consisting of: plastics, polymers, polyesters, polyolefins, polycarbonates, polyamides, polyethers, polyethylene, polytetrafluoroethylene, silicone, silicone rubber, rubber, polyurethane, DACRON, TEFLON, polyvinyl chloride, polystyrene, nylon, latex rubber, stainless steel, aluminum alloys, metal alloys, nickel, titanium, ceramics and glass.

29. A method of creating a coating on an article structured to contact physiological fluids or tissue, the method comprising the steps of:

applying a hyaluronic acid solution to a surface of the article; and

applying a heparin solution to the surface of the article.

30. The method of claim 29, wherein the hyaluronic acid solution has a pH that may range between about pH1 to about pH6.5.

31. The method of claim 29, wherein the heparin solution has a pH of about 2.

32. A method of creating a coating on an article structured to contact physiological fluids or tissue, the method comprising the steps of:

applying a solution containing both hyaluronic acid and heparin to a surface of the article.

33. A method of creating a coating on an article structured to contact physiological fluids or tissue, the method comprising the steps of:

applying a poly-lysine solution to a surface of the article; and

applying a heparin solution to the surface of the article.

34. A method of creating a coating on an article structured to contact physiological fluids or tissue, the method comprising the steps of:

applying a coating solution to a surface of the article, the coating solution comprising a mixture of hirudin, a peptide and heparin.

35. The method of claim 34, wherein the peptide is a tetrapeptide.

36. The method of claim 34, wherein the peptide is a tetrapeptide having the sequence of: arginine-glysine-aspargine-serine.

37. The method of claim 34, wherein the peptide is a tetrapeptide having the sequence of: arginine-glysine-aspargine-lysine.